

## FIELD NOTES ON *TABANUS NIGRO-VITTATUS* MACQUART<sup>1</sup>

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This horsefly was the subject of an intensive study that was started in mid-July, 1946, and was suspended only with the advent of winter. The fly might well be called the Saltmarsh Greenhead since its immature stages are evidently quite dependent on the conditions of the *Spartina* zones for their development. Wherever expansive salt marshes occur—from Nova Scotia to Texas—this insect is known and may become locally abundant. At such times it is extremely annoying to man and to domestic animals. Despite its general coastal distribution and common occurrence, the literature records only meagre details of its life-history or of its specific requirements. This paper reports some initial results of the current investigation.

*Abundance.* Two incidents will serve to emphasize how abundant the species is at the height of its season. In Essex County, Massachusetts they appear about the first of July each year and are at their peak for the last three weeks of that month. Usually there is a marked decline in their numbers by early August. The decline is augmented when a northeast storm brings a spell of unseasonably cold, wet weather. The past summer was typical in this respect.

My real introduction to this species came on the warm, sunny afternoon of July fifteenth. A call was made at the farm of Mr. Martin Burns on U. S. Route 1 in Newbury. He was found mowing a field that lies above and just south of the Parker River. Two sturdy grey horses

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were hitched to the mowing machine. Tabanids were swarming around the patient animals. Practically all were *Tabanus nigrovittatus*, although a few other types—notably *T. atratus* and *Chrysops* species—were observed. The team was flecked with blood from the fly bites. The clots showed plainly on their light coats and gave an indication of favored feeding areas. In order of decreasing frequency, the chest region, the head and neck, the median side of the upper legs, the flanks, and the belly received most attention from the flies. However, the Tabanids were all over them and allowed them no respite. They were experienced horses and maintained a remarkable calm considering the severity of the incessant attack.

It has long been known that such conspicuous objects as automobiles attract Tabanids. July eighteenth was another bright, warm day. After lunch the writer drove out Argilla Road towards Crane's Beach, Ipswich. Where the road crosses Fox Creek its bed is raised well above the marshes. The coupé was parked just beyond the bridge while some observations were made. On returning to the car an astounding number of greenheads were noted in it. The thought of making a timed collection suggested itself. The results are numerically emphatic. They give graphic evidence of the abundance of the Saltmarsh Greenhead under favorable circumstances. In fifteen minutes actual collecting time a total of 475 flies were taken by simply lifting a half-pint bottle, containing some alcohol, under them when they alighted on the inner roof covering. The disturbance caused them to fly downward into the liquid which quickly dispatched them. This collecting, at the rate of more than thirty a minute, could unquestionably have been continued much longer without noticeably diminishing the supply.

*Mating.* The mating of Tabanids is seldom observed. On one occasion only it was my privilege to find several pairs of *T. nigrovittatus* in copulation. At that time, unfortunately, the rarity of such an event was not realized or more attention would have been given to details. The morning of July twenty-fifth was very warm, humid, and

hazy-bright. There was still some fog lingering over the marsh at Conomo Point, Essex, when I arrived at nine-thirty. On approaching the Point, a sharp left turn was made over a small but abrupt rise from which the road falls quickly away to the tide line. The first cottage on the left was surrounded on three sides by salt marsh. There was a convenient place to park in front of it. Immediately after getting out on the marsh a continuous low buzzing sound was noted. Then swarms of greenheads were seen hovering just a few inches above the dense cover of the fine marsh grass (*Spartina patens*). On the far side of the cottage a slight depression was discovered where a small, sparse patch of the larger and coarser *Spartina alterniflora* stood. On the upper surface of the broader blades of these plants some mating pairs of greenheads were seen. One was resting on the back of the other with its head about over the mesothorax of the mate beneath. Although it was possible to approach the paired flies more closely than is usual with individuals, they remained alert and were not too easy to catch with the net. The carrier could still take off readily and fly rather well. If disturbed they would move to another plant two or three yards away while retaining their relationship. Four or five pairs were caught there and they included the first males taken. Another stop was made at the same place on August sixth. In the thirty or forty minutes then spent on the marsh only five or six flies were seen. This time the owner of the cottage mentioned above was there. After explaining the purpose of the visit to him, Mr. Derby remarked that a carpenter he had engaged to work on the building in a previous year had told him of the hum produced by the hovering flies. This volunteered information was of interest in the light of my own experience. That spot is apparently a regular mating place for this species.